

REMARKS

In an Office Action mailed January 30, 2003, claims 1-10 are pending and were rejected. In response, Applicants have amended claims 1-3, 5, 6, 8-10, added new claims 18-21 and are requesting reconsideration of the rejection and the allowance of the application. No additional fees should be owed because there remains no more than three independent claims and no more than twenty total claims.

Claim 6 was objected to because of an informality. With the correction of the grammatical error that was noted, Applicants request withdrawal of the objection.

Claims 1, 2, 5, 6, and 8 were rejected under 35 U.S.C. 102(e) as being anticipated by Getchel et al. (U.S. Patent 6,415,858). Getchel et al. teach a temperature control system for a workpiece chuck used in the process of testing semiconductors at differing temperatures. The system, as described at Col. 4, lines 13-30, uses sensors positioned within the system such as in a fluid path, an upper portion of the chuck, in the base and in the ambient. As noted in the Office Communication, Col. 14, lines 12-60 teach the use of an A/D converter and a CPU to process the inputs and adjust the temperature. Getchel et al. do not teach or suggest the monitoring of various locations on an integrated circuit die. Getchel et al. do not recognize the need for the recited structures in claims 1, 2, 5, 6 and 8. All of the Getchel et al. sensors are positioned external to an integrated circuit and Getchel et al. are concerned with maintaining the temperature of a flat workpiece. Additionally, Getchel et al. do not teach or suggest "selectively modifying voltage or frequency of operation for circuitry". Rather, the Getchel et al. patent discloses a temperature control system for a workpiece chuck. Getchel et al. do not teach or suggest a need for monitoring or controlling the operating temperature of circuitry contained within an integrated circuit. Specifically, Getchel et al. do not teach a

“plurality of thermal sensors positioned at predetermined differing positions within the integrated circuit die”. The positioning of the sensors in various locations according to a criteria address a heat sink solder void problem that is not addressed by the art made of record. Rather than sensing a general temperature condition, the recited structure permits the use of multiple on-chip sensors to determine specific areas of reliability concern and to customize operation of the integrated circuit based upon an unpredictable condition, where the solder voids will actually be located. Getchel et al. do not teach or suggest “power management circuitry for selectively modifying voltage or frequency of operation for circuitry in close proximity to the at least one of the predetermined differing positions.” Applicants respectfully request the reconsideration and withdrawal of the rejection of claims 1, 2, 5, 6 and 8.

Claims 3, 4 and 7 were rejected under 35 U.S.C. 103(a) as being anticipated by Getchel et al. (U.S. Patent 6,415,858) in view of Soo et al. (U.S. Patent 5,237,481). Claims 3, 4 and 7 are each dependent from claim 1 and distinguishable from Getchel et al. at least for the reasons provided above. Soo et al. provide a diode array on a power device for sensing the temperature of the power device. The power device is disabled in response to the temperature reaching a damaging level. The Soo et al. circuit is a protection device designed to disable the device once a maximum temperature is reached. In contrast, the integrated circuit recited in claims 3, 4 and 7 recite a mechanism wherein circuit operation is modified in portions of an integrated circuit to compensate for elevated temperatures rather than disabling the device being monitored. Additionally, the recited apparatus of claims 3, 4 and 7 functions to measure a plurality of sensors placed in predetermined locations to be able to monitor the temperature performance of various locations within an integrated circuit. Neither Soo et al. nor the combination teach or suggest the recited features. Therefore,

Applicants respectfully request the reconsideration and withdrawal of the rejection of claims 3, 4 and 7 under 35 U.S.C. 103(a).

Claim 9 was rejected under 35 U.S.C. 103(a) as being unpatentable over Getchel et al. (U.S. Patent 6,415,858). The basis of the rejection was that it would be obvious to one of ordinary skill to include a storage device in the Getchel et al. system. However, since claim 9 is a base claim of claim 1, claim 9 is distinguishable from the Getchel et al. for at least the reasons provided above. Although storage devices are common in electronics, there is no suggestion in the Getchel et al. system to store the output of an A/D converter prior to processing by a CPU. Additionally, there is no suggestion by Getchel et al. of the recited communication circuitry in amended claim 9. Applicants respectfully request the reconsideration and withdrawal of the rejection of claim 9 under 35 U.S.C. 103(a).

The remaining art that was made of record was reviewed by Applicants. Each reference is distinguishable from the apparatus as claimed herein for at least the reasons provided above. Applicants request the reconsideration and allowance of claims 1-10 and 18-21, thereby placing the application in condition for allowance.

DOCKET NO. SC0862ET

No amendment made herein is related to the statutory requirements of patentability unless expressly stated herein. Further, no amendment herein is made for the purpose of narrowing the scope of any claim, unless Applicants have argued herein that such amendment was made to distinguish over a particular reference or combination of references. In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is requested to telephone the undersigned at (512) 996-6839.

Respectfully submitted,

SEND CORRESPONDENCE TO:

Motorola, Inc.

Law Department
Customer Number: 23125

By: 

Robert L. King
Reg. No.: 30,185
Fax No.: 512-996-6854